



Enterprise Network Diagrams:

Insight through enterprise measurement

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Key Question

How to improve the processes of corporations and their enterprises?

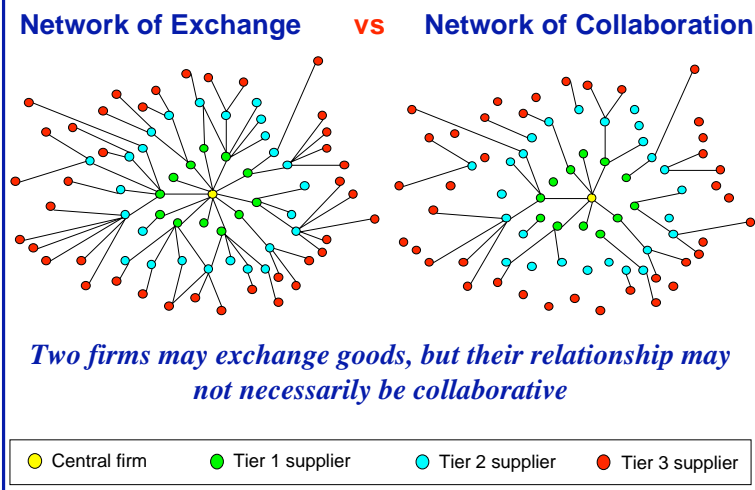
- Look beyond the firm-level to describe and measure enterprise-level processes
- Understand inter-organizational processes and capabilities through study of *enterprise networks*

What makes for a “good” network?

- The right **structure** - number & arrangement of relationships
- The right **content** - nature of the relationships themselves
- The ability to adapt over time to new environmental conditions

Research Goal:

To visualize, analyze and evaluate enterprises as inter-organizational networks



Measures of Structure

- Density of collaboration network vs. density of exchange network (Wasserman and Faust 1994)
- First-order & second-order network coupling (Uzzi 1996)
- Small world Q (Uzzi and Spiro 2005)

Measures of Content

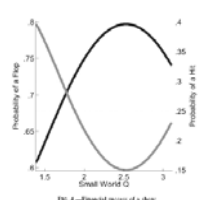
- Trust
- Joint Problem Solving
- Fine grained information transfer (Uzzi 1997, Whitford et al 2007)
- Supplier development / process compatibility (MacDuffie and Helper 1997)

Outcomes of Interest

- Average profit margin of enterprise
- Gini coefficient (measure of inequality)

Related Research Has Already Evaluated Networks

- Collaborations in Broadway Musical Success, 1945-1989 (Uzzi and Spiro 2005)



High values of Q - low turnover of network membership
➤ Cohesion is too high
➤ Not enough new ideas
➤ Can become too comfortable

Low values of Q - high turnover of network membership
➤ Cohesion is too low
➤ Not good as collaborators

Case Studies Currently Underway To Understand “Collaborative” Relationships

- **Intra-organizational relationships**
United Technologies Corporation's ACE Operating System – Deficiency Report Process Improvements
- **Inter-organizational relationship**
Honda North America - supplier development activities

Collecting Enterprise Network Data

- Focus data collection on two enterprises
- Begin at central firm, followed by snowball sampling of suppliers
- Web-based survey – will include measures of
 - Network structure
 - Network content
 - Outcome measures

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